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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/643,333	08/22/2000	Harry A. Loder	55243USA3B	8443

7590

12/17/2002

Attn Alan Ball  
Office of Intellectual Property Counsel  
3M Innovative Properties Company  
P O Box 33427  
St. Paul, MN 55133-3427

EXAMINER

PAK, SUNG H

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 12/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application N .</b>	<b>Applicant(s)</b>	
	09/643,333	LODER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sung H. Pak	2874	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 September 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-37 is/are pending in the application.
- 4a) Of the above claim(s) 13-22 and 32-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-12 and 23-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>13</u> . | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

In response to the amendment filed 9/25/2002, all the requested changes to the claims have been entered. Claims 8-37 are pending, among which claims 13-22 and 32-37 are withdrawn from consideration. Claims 23-31 are amended, and claims 8-12 are left unamended. The pending claims are carefully reconsidered by the examiner, but they are still deemed unpatentable. Please refer to Remarks for details.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al (US 6,039,585) as applied in the previous office action.

Kim et al was cited in the prior office action.

Kim et al discloses a connector assembly with all the limitations set forth in the claims, except it does not teach that such connector assembly is a backplane connector assembly. Specifically, Kim et al discloses: plurality of longitudinal cavities (Fig. 14 and 16); at least one folding door comprising a hinge plate formed integrally with a pair of biasing members to cover the frontal opening, there being an intervening wall between the receiving cavities ("80'" in fig. 16); a connection adapted to secure the hinge plate adjacent the intervening wall to provide attachment of the folding door to the housing (Fig. 16); the folding door being made of BeCu alloy (column 6 line 19).

However, such connector assembly is commonly used in a backplane connector arrangement. Backplane arrangement is advantageous because it allows for convenient and organized fiber optic connections in a space efficient manner. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kim et al device to be used in a backplane connection arrangement.

Claims 23-29, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roth (US 6,079,881) in view of Kim et al (US 6,039,585).

Roth was cited in the prior office action.

Roth discloses a fiber optic connector for backplane application (column 3 line 13) with all the limitations set forth in the claims, except it does not teach the single

piece integral spring member as a foldable door. Specifically, Roth discloses: backplane housing defining a longitudinal receiving cavity (Fig. 2); the cavity having a frontal and rear opening with foldable frontal and rear door utilizing a foldable spring, wherein the doors automatically close when an optical connector member is not placed in the opening (Fig. 2).

However, the foldable door in Roth is composed of multiple parts and its construction is relatively costly. Foldable door piece in Kim et al, on the other hand, is composed of single piece component effectively closing off the entrance of the connector from any possible contaminants. Kim et al explicitly mentions that such design is advantageous because it is 'simple, reliable... inexpensive' compared to prior art devices. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify foldable door of Roth with the teachings of Kim et al.

Regarding claim 29, Roth does not teach the housing having plurality of linearly stacked receiving cavities. However, backplane fiber optic connector housing having plurality of linearly stacked receiving cavities is well known and commonly used in the art. Such configuration provides a known advantage of having high density of fiber optic connections for a given space. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Roth device to have plurality of linearly stacked receiving cavities. It would be desirable to have high density fiber optic connections.

***Allowable Subject Matter***

Claim 30 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: none of the prior art devices fairly teach or suggest a door for fiber optic connector assembly comprising single stamped metal part having first and second wings and hinged portion, wherein the hinge portion is attached to a diving wall between the two adjoining stacked cavities.

***Remarks***

Rejection of Claims 8-12 under 35 U.S.C. 103(a):

On page 6, section "b. claims 8-12" the applicants argue that what is characterized as a 'door' in Kim et al (element "80"), is just a leaf spring that crimps the front end of a molded tubing material. The examiner respectfully points out that while it is true that element "80" does crimp the front end of the tubing material, it is still a door that opens when a connector is inserted into the housing, and closes when it is taken out of the housing. American Heritage Dictionary defines a 'door' as "a movable structure used to close off an entrance..." Element "80" from Kim et al reference meets the definition of "door" in this respect, and to limit the definition of 'door' in any other specificity would be repugnant to the generally accepted meaning of the term. Therefore, the rejection based on Kim et al is still valid, and the claims stand rejected.

Rejections of claims 23-29, and 31 under 35 U.S.C. 103(a):

New ground of rejection is furnished in this office action as a response to the newly added limitations in the amended claims.

### ***Conclusion***

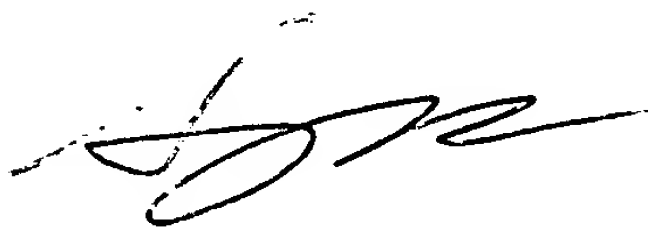
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (703) 308-4880. The examiner can normally be reached on Monday - Thursday : 6:30am-5:00pm.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Sung H. Pak  
Examiner  
Art Unit 2874

sp  
December 11, 2002



Rodney Bovernick  
Supervisory Patent Examiner  
Technology Center 2800